

What is claimed is:

1. A system for providing multiple language support for at least one application program, the system comprising:

5 a plurality of language resource bundles comprising associations between language keys and displayable language-sensitive elements, each resource bundle corresponding to a different language; and

10 a language resource manager configured to receive a first language key from an application program, locate a language resource bundle corresponding to a currently-selected language, identify a language-sensitive element associated with the first language key, and provide the identified language-sensitive element to the application program for display in a graphical user interface.

2. The system of claim 1, further comprising:

15 an application program configured to provide a language key to the language resource manager, receive a language-sensitive element from the language resource manager, and display the language-sensitive element in a graphical user interface.

20 3. The system of claim 1, wherein at least one language-sensitive element is selected from the group consisting of a text string, an icon, a graphic, and a video clip.

4. The method of claim 1, wherein the language resource manager is further configured to display a language switching mechanism in the graphical user interface for changing the currently-selected language in response to user input.

5 5. The method of claim 4, wherein the language switching mechanism is selected from the group consisting of a drop-down list, a menu, a button, an edit box, and an icon.

6. The method of claim 1, wherein the language resource manager is further configured to change the currently-selected language in response to at least one keystroke.

7. The system of claim 1, further comprising:
a language switching component configured, in response to a change in the currently-selected language, to send to the language resource manager a language key corresponding to a first language-sensitive element displayed in the graphical user interface, receive from the language resource manager a second language-sensitive element, and replace the first language-sensitive element with the second language-sensitive element in the graphical user interface.

8. The system of claim 7, wherein the language switching component is further configured to replace each language-sensitive element displayed in the

graphical user interface with a new language-sensitive element in response to a change in the currently-selected language.

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9. The system of claim 7, wherein the language switching component is further configured to preempt the application program, save a state of the application program, discard the graphical user interface being currently displayed, generate a new graphical user interface comprising at least one new language-sensitive element provided by the language resource manager, restore the state of the application program, and resume execution of the application program.

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10. The system of claim 1, wherein the language resource manager is in communication with a plurality of applications to receive language keys and provide language-sensitive elements.

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11. The system of claim 1, wherein at least one association in a language bundle is specific to a particular application.

12. The system of claim 1, wherein at least one association in a language bundle is applicable to a plurality of applications.

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13. The system of claim 1, further comprising:

a parser configured to parse a language resource file comprising descriptors of language keys and descriptors of language-sensitive elements and to generate therefrom a language resource bundle.

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14. The system of claim 13, wherein the language resource file comprises human-readable text.

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15. The system of claim 13, wherein at least one descriptor of a language key is selected from the group consisting of a string, a character, a number, and a symbol.

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16. The system of claim 13, wherein at least one descriptor of a language-sensitive element comprises a Unicode string.

17. The system of claim 13, wherein at least one descriptor of a language-sensitive element comprises an address.

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18. The system of claim 17, wherein the address comprises a file name.

19. The system of claim 17, wherein the address comprises a uniform resource locator (URL).

20. The system of claim 1, wherein the language resource manager is a component of a framework used by the at least one application program.

5 21. A method for providing multiple language support for at least one application program in a computer system comprising a plurality of language bundles, each language bundle corresponding to a particular language and comprising associations between language keys and displayable language-sensitive elements, the method comprising:

receiving a first language key from an application program,

10 locating a language resource bundle corresponding to a currently-selected language;

identifying a language-sensitive element associated with the first language key; and

15 providing the identified language-sensitive element to the application program for display in a graphical user interface.

22. The method of claim 21, further comprising:

displaying the language-sensitive element in a graphical user interface.

20 23. The method of claim 21, wherein at least one language-sensitive element is selected from the group consisting of a text string, an icon, a graphic, and a video clip.

24. The method of claim 21, further comprising:

displaying a language switching mechanism in the graphical user interface for changing the currently-selected language in response to user input.

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25. The method of claim 24, wherein the language switching mechanism is selected from the group consisting of a drop-down list, a menu, a button, an edit box, and an icon.

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26. The method of claim 21, further comprising:

changing the currently-selected language in response to at least one keystroke.

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27. The method of claim 21, further comprising:

in response to a change in the currently-selected language:

sending a language key corresponding to a first language-sensitive element displayed in the graphical user interface;

receiving a second language-sensitive element in response to the language key; and

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replacing the first language-sensitive element with the second language-sensitive element in the graphical user interface.

28. The method of claim 27, further comprising:
replacing each language-sensitive element displayed in the graphical user
with a new language-sensitive element in response to a change in the currently-
selected language.

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29. The method of claim 27, further comprising:
preempting the application program;
saving a state of the application program;
discarding the graphical user interface being currently displayed;
generating a new graphical user interface comprising at least one new
10 language-sensitive element received in response to a language key;
restoring the state of the application program; and
resuming execution of the application program.

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30. The method of claim 21, receiving language keys from a plurality of
applications and;
providing corresponding language-sensitive elements to each application.

20 31. The method of claim 21, wherein at least one association in a
language bundle is specific to a particular application.

32. The method of claim 21, wherein at least one association in a
language bundle is applicable to a plurality of applications.

33. The method of claim 21, further comprising:
parsing a language resource file comprising descriptors of language keys and
descriptors of language-sensitive elements to generate therefrom a language
5 resource bundle.

34. The method of claim 33, wherein the language resource file comprises
human-readable text.

35. The method of claim 33, wherein at least one descriptor of a language
key is selected from the group consisting of a string, a character, a number, and a
symbol.

36. The method of claim 33, wherein at least one descriptor of a language-
sensitive element comprises a Unicode string.

37. The method of claim 33, wherein at least one descriptor of a language-
sensitive element comprises an address.

38. The method of claim 37, wherein the address comprises a file name.

39. The method of claim 37, wherein the address comprises a uniform
resource locator (URL).

40. A computer program product for providing multiple language support for at least one application program, the computer program product comprising:

5 a plurality of language bundles, each language bundle corresponding to a particular language and comprising associations between language keys and displayable language-sensitive elements;

program code for receiving a first language key from an application program,

program code for locating a language resource bundle corresponding to a currently-selected language;

10 program code for identifying a language-sensitive element associated with the first language key; and

program code for providing the identified language-sensitive element to the application program for display in a graphical user interface.

15 41. The computer program product of claim 40, further comprising:

program code for displaying the language-sensitive element in a graphical user interface.

20 42. The computer program product of claim 40, wherein at least one language-sensitive element is selected from the group consisting of a text string, an icon, a graphic, and a video clip.

43. The computer program product of claim 40, further comprising:

program code for displaying a language switching mechanism in the graphical user interface for changing the currently-selected language in response to user input.

5 44. The computer program product of claim 43, wherein the language switching mechanism is selected from the group consisting of a drop-down list, a menu, a button, an edit box, and an icon.

45. The computer program product of claim 40, further comprising:
program code for changing the currently-selected language in response to at
least one keystroke.

46. The computer program product of claim 40, further comprising:
in response to a change in the currently-selected language:
program code for sending a language key corresponding to a first
language-sensitive element displayed in the graphical user interface;
program code for receiving a second language-sensitive element in
response to the language key; and
program code for replacing the first language-sensitive element with
the second language-sensitive element in the graphical user interface.

20 47. The computer program product of claim 46, further comprising:

program code for replacing each language-sensitive element displayed in the graphical user with a new language-sensitive element in response to a change in the currently-selected language.

5 48. The computer program product of claim 46, further comprising:
program code for preempting the application program;
program code for saving a state of the application program;
program code for discarding the graphical user interface being currently
displayed;
10 program code for generating a new graphical user interface comprising at
least one new language-sensitive element received in response to a language key;
program code for restoring the state of the application program; and
program code for resuming execution of the application program.

15 49. The computer program product of claim 40, receiving language keys
from a plurality of applications and;
program code for providing corresponding language-sensitive elements to
each application.

20 50. The computer program product of claim 40, wherein at least one
association in a language bundle is specific to a particular application.

51. The computer program product of claim 40, wherein at least one association in a language bundle is applicable to a plurality of applications.

5 52. The computer program product of claim 40, further comprising:
program code for parsing a language resource file comprising descriptors of language keys and descriptors of language-sensitive elements to generate therefrom a language resource bundle.

10 53. The computer program product of claim 52, wherein the language resource file comprises human-readable text.

54. The computer program product of claim 52, wherein at least one descriptor of a language key is selected from the group consisting of a string, a character, a number, and a symbol.

15 55. The computer program product of claim 52, wherein at least one descriptor of a language-sensitive element comprises a Unicode string.

20 56. The computer program product of claim 52, wherein at least one descriptor of a language-sensitive element comprises an address.

57. The computer program product of claim 56, wherein the address comprises a file name.

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